

1           REPRESENTING, METHOD OF CONFIGURING,  
2           ADMINISTERING, MONITORING, AND/OR MODELING  
3           CONNECTIONS USING CATALOGS AND MATRICES

4           ABSTRACT OF THE INVENTION

5       A method, apparatus, computer product and structure is  
6       presented for representing and managing large amounts  
7       of information concerning networks of elements. While  
8       being useful for communication networks, it can be also  
9       usefully deployed in the context of other networks such  
10      as distribution and transportation networks. The method  
11      uses a hierarchical construct called "catalog" - a set  
12      of elements (which could be "atomic" elements or  
13      catalogs themselves) - to organize information about  
14      physical or abstract entities relevant for modeling the  
15      network. A matrix construct whose rows and columns  
16      constitute such elements are used to model connections  
17      at different levels of abstraction. A common framework  
18      and representation provided using these two constructs  
19      is shown to be useful for visualization,  
20      administration, configuration, modeling, monitoring and  
21      manipulation of the network.